

It's been called the fastest, growing sport in America. Nearly every weekend from mid-February to mid-November, 100,000 die-hard fans get in their cars and crawl through gridlock to watch their favorite NASCAR drivers bump and grind their way through a 43-car field at 180mph. Some weeks, these loyal fans, who travel to racetracks from New Hampshire to California and 21 stops in between, make up the largest gathering of human beings in the world.

On Sunday, Sept. 30, at the brand-new, multimillion-dollar Kansas Speedway in Kansas City, Kan., the faithful proudly circled the track in t-shirts sporting the numbers and likenesses of their favorite NASCAR drivers. In the infield and just outside the track's thick, concrete walls, RVs from states near and far flew the colors of the circuit's most recognizable names: Jeff Gordon, Dale Earnhardt, Jr., and Dale Jarrett.

For those who can't make it to the track there is always the TV. It seems everything NASCAR drivers do these days is televised. From qualifying rounds to "happy hour" practice sessions, nearly all of the on-track events that precede NASCAR's weekly Winston Cup races are broadcast and analyzed in multi-camera detail.

On the last Sunday in September, this task fell to NBC, which began broadcasting races this year as part of a new six-year agreement with NASCAR, the governing body for the Winston Cup circuit. According to the agreement, NBC and its cable partner, TNT, have broadcast rights to the second half of each NASCAR season

for the next six years. Meanwhile FOX and its cable partner, FX Network, have rights to the first half of each season, and FOX and NBC will alternate coverage of the Daytona 500, NASCAR's premier event.

This new contract means more growth and exposure for NASCAR. It also means FOX and NBC, which have never been huge players in motorsports broadcasting, had to get up to speed in a hurry. For its part, NBC teamed up with Turner Sports' TNT cable network, a long-time broadcaster of NASCAR races. Through this one-of-a-kind partnership, the two networks operate as equal partners, splitting production costs 50-50. One of the results of the partnership is that the networks share a unique production look and style for their NASCAR broadcasts, which are produced by the same staff and talent, no matter which network carries the broadcast.

The NBC/TNT production crew is directed by Mike Wells, a 20-year veteran of motorsports broadcasts, many of them with ESPN. "Mike has experienced almost everything you could experience from a director's chair in this sport, and built the way it is seen today," says Sam Flood, Wells producer for the NBC/TNT broadcasts. "Now we are giving him all of these extra toys to play with."

These toys include approximately 35 cameras, mounted in various configurations, depending on the week's track design. At the Kansas Speedway, six Sony BVP-900s on track-side scaffolds and roof platforms capture traditional wide racing angles. Another four wireless Sony RF handheld cameras deliver live reports from the pit and garage areas. In addition to these manually operated cameras, 10 robotic cameras, including four Sony BVP-950s mounted on the outside race wall, capture the cars speeding by. (For a more complete look at the cameras

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The NBC/TNT NASCAR crew was in high gear for the inaugural Winston Cup event at the new Kansas Speedway.

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employed by the production crew at Kansas Speedway. see "Around the Track," this page.)

In addition to the cameras capturing the action around the track, each week 10 Winston Cup cars carry three in-car cameras each. A 360-degree remote-control camera sits just behind the right shoulder of the drivers, with additional lipstick cameras mounted to the cars' roofs and rear bumpers. All of the cameras transmit digital images to a helicopter hovering above the track, which then bounces them to an in-car camera truck, and ultimately to the main broadcast truck via Triax Broadcast Sports Technology installed and maintains these cameras, which are controlled by four operators in the in-car camera truck.

A fourth broadcast truck houses a crew from Sportvision, the company that invented the 1st & Ten virtual first-down line used in football broadcasts. Sportvision's Racefix system uses global positioning system (GPS) satellites to track and collect real-time location information and car performance data several times per second from each car on the track. The Sportvision crew has also produced animated graphics that NBC and TNT call the "Virtual Garage." These animations are used to illustrate common racing terms. (For more on Sportvision's Racefix system and the Virtual Garage, see "A New Vision in Sports," page 42.)

In a fifth and final broadcast truck, audio teams mix and manage effects. Since the rumble of the engines is such an important part of NASCAR, each broadcast employs approximately 90 microphones. About 18 of the mics are mounted on the track walls in stereo pairs, and each camera — with the exception of the in-

car cameras — carries two microphones. The crew in the audio truck also monitors the radio communications among the 43 competing race teams and their drivers. These conversations are sometimes added to give a unique, inside-the-helmet perspective to the broadcasts. The audio broadcast truck is also home to two high-end Avid editing systems, where artists create graphic-intensive bumpers and feature segments.

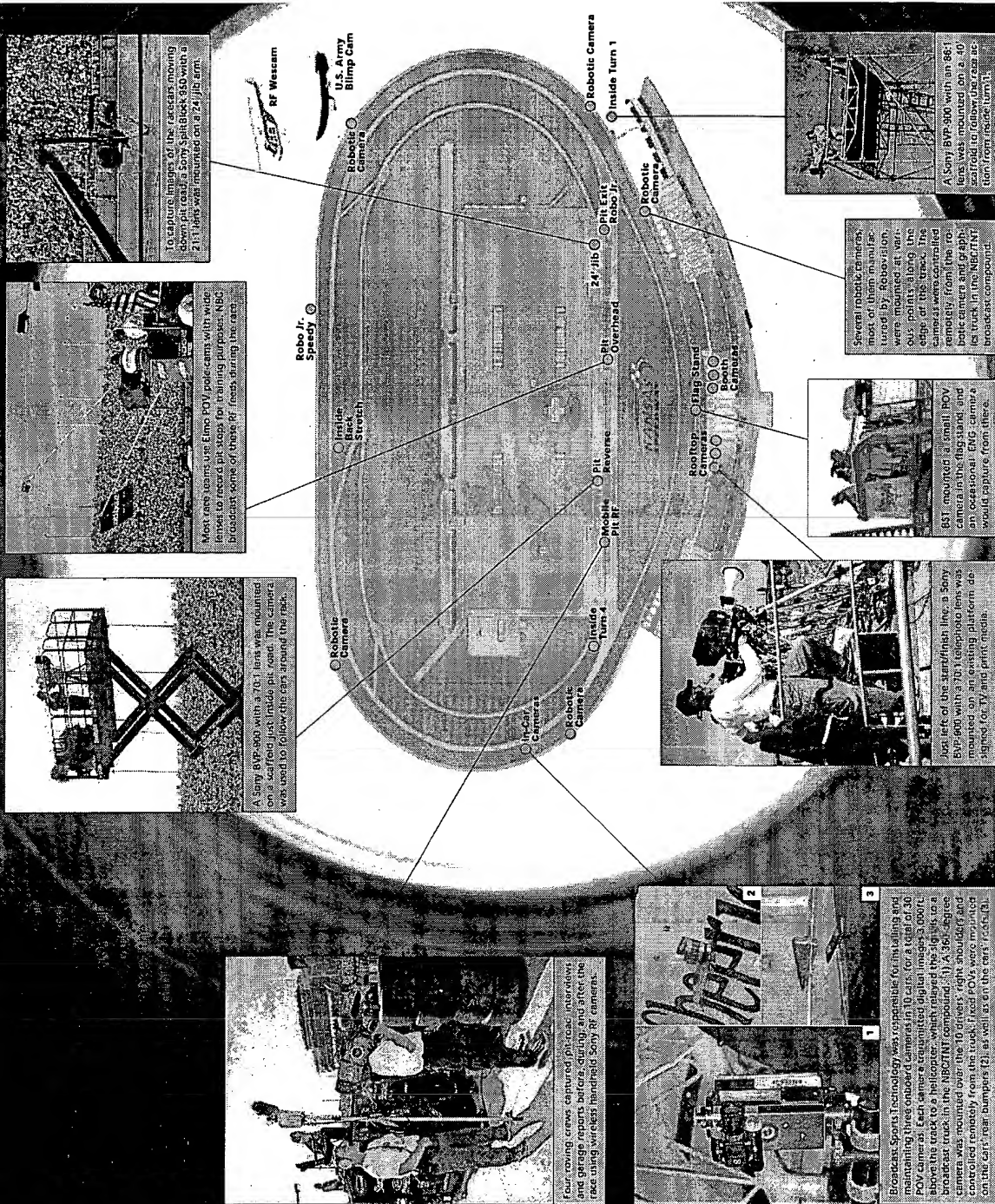
The entire production comes together in the main broadcast truck, where Wells and Flood communicate with the 200 or so people involved with each weekly NASCAR telecast, including the three announcers in the broadcast booth. Wells says with all of the action circling the track and all of the technology piped into the truck, his job keeps him on the edge of his seat. But he always stays focused on his main goal: storytelling.

"There are so many stories going on out there on the track, my job is simply to capture as many of them as I can," he says. "It's a lot different than stick-and-ball sports, where there's one main focal point. You can't just follow the ball. Plus there's never a true break in the action unless there's a yellow flag, and even then you'll probably have pit stops, and you can win or lose a race in the pits. It's a great challenge to tell all of the stories and not miss any of the action."

Here's a play-by-play of some of the stories Wells and his team culled from the action during NBC's Sept. 30 NASCAR broadcast at Kansas Speedway:

Lap 88 of 267

Benny Parsons, a former Winston Cup driver frequently referred to as "the professor," uses the



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term "base" to describe a car's handling. Wells immediately takes viewers into the Virtual Garage to illustrate the point. Inside the animated world created by Sportvision artists, a CC car drives through a corner on the inside of the track when its back end begins to wiggle. Parsons elaborates in voiceover: "The back end kicks out and you go straight for the wall. Using the bank [of the track], you're trying to catch the car."

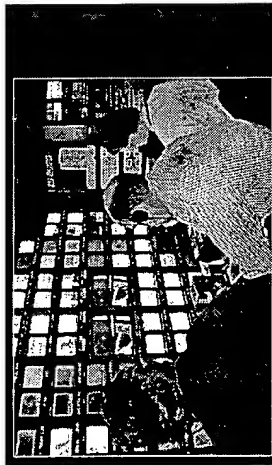
After Wells takes us out of the garage and back to the racetrack, as if on cue, Mark Martin's #6 Ford gets loose on the inside of the track with Mike Wallace's #7 car right next to him on the outside. Wallace dodges Martin's car and Martin avoids the wall, dropping from 11th place to 18th in the process. After a series of wide-angle replays, Wells calls for a replay of the incident from the onboard camera in Dale Earnhardt, Jr.'s car, which was right behind the two cars in 13th place at the time. Wally Dallenbach, NBC's other analyst, and also a former Cup driver, adds his perspective on the new angle, pronouncing the

incident "a heck of a save." To which Parsons adds: "And I'm not sure how Mike Wallace had presence of mind enough to know that Mark was in trouble. Normally that would be a crash that would take both cars out."

Lap 138

Bill Elliott, looking for his first Winston Cup win in eight years, has led 33 laps and is running out front when he blows his engine and is suddenly out of the race. Several laps later, Matt Yocum, one of four

NBC/NTN pit reporters, does an interview from the garage area with Ray Evernham, the owner of Elliott's #9 Dodge. Evernham expresses disappointment, but says it's not that big of a deal in the big picture, and mentions the Sept. 11 terrorist attacks on the United States. During a subsequent caution period, Evernham's comments play over the racecast's PA system while video of the interview appears on two Jumbotron screens in the infield. The Jumbotron feeds are coming from a separate truck in the broadcast compound operated by



Inside the main broadcast truck, producer Sam Flood (center) and director Mike Wells (far right) joined the various camera, graphics, and audio sources to create a cohesive program.

a company called Screen-Works.

Lap 153

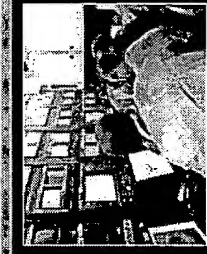
As a wide angle follows Earnhardt, Jr. (often referred to simply as Junior) with the field running comfortably under a green flag, Wells goes to a feature piece by pit reporter and pre-race host Bill Weber. Weber talks of Earnhardt's win the previous week in Dover, Del., and an unusual passenger in Earnhardt's #8 Chevrolet.

"Yes, Wilson is aboard once again this week," Weber confirms. "If you're not familiar with the story, Wil-

son is the volleyball character from the movie *Caddyshack*. Junior said he got lonely during the Southern 500 [Sept. 2 in Darlington, S.C.], so his crew put someone in there to keep him company."

As Weber mentions Wilson, Wells jumps to a still shot of a volleyball strapped in Junior's car with a red handprint on it and a mohawk hairdo. As Wells calls for the live onboard shot in Junior's car, the 360-degree camera pans down to reveal Wilson once again accompanying Earnhardt. The camera is controlled by

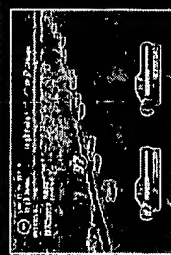
(Continued on page 96)



Inside the Sportvision truck in Kansas.

application of the technology is the scrolling text box that appears on the top of the screen, displaying every car on the track. The graphic display can keep a realtime record of running order and lap, even showing how far each car is behind the lead.

Sportvision has also developed a series of animations that NBC and NFL call the "Virtual Garage." These short graphic sequences are used to illustrate the meaning of technical race terms. For instance, if an announcer is describing what it means for a race car to handle, those in the corners, a short animation depicting the phenomenon can be played.



An example of Sportvision's tracking capabilities and NBC/NTN's graphic look.

Sportvision, the company that created the Emmy-winning 1995 Ten Channel Award-winning system used in football broadcasts, uses similar technology for the racing program used by NBC and NTN.

Each race is split into two parts: a pre-race and a post-race. The pre-race is a 45-minute live broadcast featuring a complete analysis of the race, live position and performance data are displayed on the computer in the corners, graphic sequences are

played on the Jumbotron screens in the infield. The information gathered by the racecast system can also be used to add visual effects such as the "Virtual Dashboard," a graphic representation of a car's dashboard with the car team board with the car team logo, and the most frequent

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(Continued from page 42)
a joystick in the in-car camera truck.

Lap 185

Johnny Benson, running in second, blows his engine right in front of Junior. Once again, Earnhardt's onboard camera catches the action. With oil covering Earnhardt's windshield and obstructing the camera's view, Junior moves his car quickly to the right to avoid Benson's car without touching the wall.

One lap later, an onboard replay from inside Benson's car includes a lower-third graphic that reads "Virtual Dashboard," which simulates the miles-per-hour and revolutions-per-minute gauges in Benson's dash as his engine blows. Sportvision's Race/ix system provides the realtime telemetry information.

Lap 230

While following action at the front of the pack, Wells quickly calls for a shot of Earnhardt's #8 car, which has just hit the wall in turn 2 and is leaving a trail of fire as it slows to a rest on the track. He then immediately calls for the audio from Earnhardt's crew: "You all right, Junior?" a voice asks, but receives no audible reply. There are some tense mo-

ments as the in-car camera shows Junior sitting in his driver's seat motionless. Earlier this year at the Daytona 500, Junior's father, Dale Earnhardt Sr., one of the most adored and respected drivers in motorsports, was killed in a crash. With this memory still fresh in his mind, Wells won't call for the in-car view of a crash until he knows for sure that the driver is uninjured.

Soon, a member of the track's safety crew is shown leaning in the driver's side window and Junior removes his steering wheel and throws it onto the dash in frustration. Several minutes later, after Earnhardt is safely out of the car, Wells calls for the shot of the crash from the onboard camera.

Visibly relieved, Parsons and Dallenbach speculate that the fire coming from the car must have been caused by damage to the fuel pump. Wells calls for the Virtual Garage graphic of a fuel pump fire. The animation depicts a car crashing into a wall and then shows the chain reaction that occurs under the hood. With the impact, the car's frame is jarred, causing one of the frame rails to break the fuel pump. Parsons says this causes gasoline to spray onto the car's red-hot head-

ers, which results in a fire much like the one under Earnhardt's car.

A couple of laps later in the garage, Junior explains what caused him to hit the wall: "I think we blew a right-front tire. I felt the vibration a couple of laps [before the crash]. I just needed another half lap [to get into the pits to get it fixed]." When asked how he felt, Junior replies: "That was a helluva hit, but I took it in stride just like always."

Lap 248

In the day's scariest moment, Dale Jarrett's #88 car hits the outside wall in turn 1. Because the wreck happened toward the middle of the pack, Wells doesn't get the live shot. Replays show Jarrett was the outside car with two cars to the inside. Thinking he was clear of Bobby Labonte's #18 car immediately to his left, Jarrett moved down the track, clipping the right front fender of the 18 car. This sent Jarrett's car into a 180-degree spin and into the outside wall, left quarter-panel first. After the impact, Jarrett's car does a 360 in the opposite direction and settles in the middle of the track.

After several wide angles of the crash, Wells calls for the onboard view from Labonte's car. He then calls for the onboard view from Jarrett's car after it had come to rest. There appears to be no movement in the 88 car.

As a crew of rescue workers try to extricate Jarrett from his mangled car, Wells calls for Jarrett's onboard view of the crash. The video transmission is immediately lost upon impact, and is regained after the car has stopped moving. But Wells doesn't stay on the shot from inside the car very long.

After a couple of commercial breaks, Jarrett is finally shown walking gin-

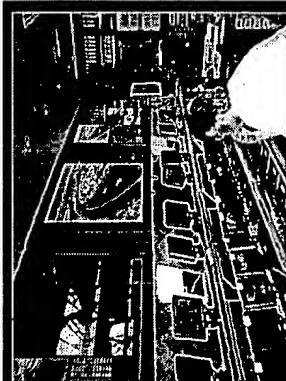
gerly to an ambulance on the track. Once again, NBC's three announcers are clearly relieved at the sight.

A few laps later, pole-sitter Jason Leffler hits the wall on the frontstretch, causing the 13th and final caution flag of the day. During the race stoppage, a helicopter is shown flying Jarrett to a nearby hospital as a precautionary measure. He was later released.

After the race, Wells talked about his thought process with regard to the Earnhardt and Jarrett crashes: "We had onboard of both of those crashes, but there's no way we show that to the viewers at home unless we know they're all right. I don't think it's our responsibility to show family members, or even fans, that type of information. The crash is certainly part of racing, but it just depends on the situation as to how we cover it. There have been some amazing crashes where a guy will flip a dozen times and then get up and walk away. You can't show that enough. But you have to be careful."

Lap 261

With six laps to go in a race that has taken nearly four hours, Jeff Gordon, the leader in the season-long Winston Cup points race, is in front of the pack. He sprints to the finish, a few car lengths ahead of rookie Ryan Newman. As Gordon celebrates his victory by doing donuts in the grass near the 75,000-seat grandstand, Parsons radios Newman, who is still in his car on pit road. As Parsons congratulates Newman for his impressive second-place finish, Gordon enters victory lane and Wells calls for an in-car shot of the victorious driver as he prepares to get out of his car and accept the trophy for winning the inaugural Winston Cup race at Kansas Speedway. ■



The 10 360-degree in-car cameras (bottom row) in the in-car camera truck.